Name:

at1113exam: Expand, factor, and solve quadratics (v332)

1. Expand the following expression into standard form.

$$(6x - 5)(6x + 5)$$

$36x^2 + 30x - 30x - 25$

$36x^2 - 25$

2. Expand the following expression into standard form.

$$(2x - 3)(5x - 6)$$

$10x^2 - 12x - 15x + 18$

$10x^2 - 27x + 18$

3. Solve the equation.

$$(6x + 5)(9x + 4) = 0$$

$x = \frac{-5}{6}$ $x = \frac{-4}{9}$

4. Expand the following expression into standard form.

$$(5x + 8)^2$$

$25x^2 + 40x + 40x + 64$

$25x^2 + 80x + 64$

5. Solve the equation with factoring by grouping.

$$8x^2 + 10x + 12x + 15 = 0$$

$$(2x + 3)(4x + 5) = 0$$

$$x = \frac{-3}{2} \qquad x = \frac{-5}{4}$$

6. Factor the expression.

$$x^2 - 5x + 6$$

$$(x - 3)(x - 2)$$

7. Factor the expression.

$$49x^2 - 36$$

$$(7x - 6)(7x + 6)$$

8. Solve the equation.

$$7x^2 - 8x + 1 = 4x^2 + 3x - 5$$

$$3x^2 - 11x + 6 = 0$$

$$(3x - 2)(x - 3) = 0$$

$$x = \frac{2}{3} \qquad x = 3$$